

Ryan Zhang

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EDUCATION

University of British Columbia

Bachelor of Science in Computer Science (GPA: 3.9/4.0)

Vancouver, BC

May 2027

- Awards: Trek Excellence Scholarship (**Top 5% of Faculty**), Charles and Jane Banks Scholar, Science Scholar, Dean's List

WORK EXPERIENCE

Microsoft

Software Engineer Intern

Vancouver, BC

Incoming May 2026

- Joining Microsoft Teams, focusing on development of distributed systems infrastructure and backend services using C#, .NET

Planview

Software Engineer Intern

Vancouver, BC

Jan 2025 – Aug 2025

- Built core features for Copilot, a multi-agent AI assistant serving **100+** enterprise clients within Planview products, using **Java, Spring Boot, PostgreSQL**, and **TypeScript React**; deployed via CI/CD (GitHub Actions, ArgoCD) to **AWS** (EKS, EC2)
- **Led** development of Workflows, allowing users to automate multi-step business processes across products – gathered requirements with product teams, built async execution engine and RESTful API, featured at Planview Connect 2025
- Accelerated host-app integrations by **10x** by developing a hybrid **MCP** client supporting both legacy tool calls and MCP servers
- Boosted per-session user retention by **65%** by developing an LLM-driven relevant follow-up question generation pipeline
- Integrated GraphQL and AWS SES microservice to enable agentic sending of context-aware emails from user chat history
- Built logging pipeline with data obfuscation and retention compliance using AWS CloudWatch and Fluent Bit log tailing
- Maintained zero production incidents across **65+** frontend/backend commits through comprehensive tests with Jest, Mockito

University of British Columbia

Undergraduate Computer Science Teaching Assistant

Vancouver, BC

Sept 2024 – Dec 2024

- Instructed **90+** lab students in a cohort of 600+ total CPSC 110 (Computation, Programs, and Programming) students
- Supported **200+** students with algorithmic problem-solving using functional languages (BSL, ISL, ASL) through office hours
- Received a **90%** favorable rating based on metrics of helpfulness and clarity from student feedback across **3** lab sections

PROJECTS

Rocky | C++, Python, ROS2, micro-ROS, ESP-IDF, FreeRTOS, OpenRouter, Whisper

[GitHub](#)

- Built a ROS2-based agentic robotics system with hardware-mapped LLM tool calls, driven by Whisper STT and OpenRouter
- Designed dynamic, decoupled **Python ROS2** graph, exposing hardware actuation tasks as typed LLM tools at inference time
- Developed **C++** firmware for ESP32, exposing tool-friendly queue-based task interface for LLM-driven actuation via micro-ROS
- Implemented OTA ESP32 firmware CI/CD pipeline using GitHub Actions, automating build validation, deployment, rollback

Noteblock | Go, SQLite, PostgreSQL, Electron, React, Ollama

[GitHub](#)

- Built cross-platform desktop note-taking app with modular block system (markdown, code, image annotations, drawing)
- Developed two-layered server architecture - local **Go** process with **SQLite** for sub-100ms user-facing performance; cloud Go service managing user auth, multi-device sync, and conflict resolution enabling seamless offline-online access
- Designed extensible JSON schema for block data storage enabling simpler plugin integrations and open-source contributions
- Integrated on-device AI via **Ollama** API enabling privacy and performance focused AI features keeping info off external servers

SKILLS

Languages: C/C++, C#, Java, TypeScript, Go, Python, SQL, JavaScript, HTML, CSS

Frameworks/Libraries: .NET, Spring Boot, Spring AI (MCP), React, Electron, Node.js, Flask, Next.js, Mockito, Jest

Embedded: ROS2, ESP-IDF, FreeRTOS, micro-ROS, Raspberry Pi, ESP32

Databases: PostgreSQL, SQLite

Developer Tools: Docker, Git, GitHub Actions, AWS (EKS, EC2, S3, CloudWatch, Bedrock), Kubernetes, ArgoCD, Datadog